

REMARKS

Claims 1-13 are pending in the application and are presented for reconsideration. By this amendment, claims 1-4 and 6-13 have been amended to improve claim language without narrowing claim scope. No new matter is added.

Applicant notes that the Action does not acknowledge his claim for priority or receipt of the priority document. At the time this application was filed, pursuant to 35 USC 119, applicant claimed the benefit of the filing date of Japanese patent application No. 11-100629 filed on April 7, 1999, and submitted a certified copy of the priority document. Accordingly, applicant requests the acknowledgement of the claim for priority and receipt of the certified copy of the priority document.

Claims 1-13 were rejected under 35 USC 102(e) as being anticipated by U.S. Patent No. 6,346,949 to Fujiwara, *et al.* ("Fujiwara"). This rejection is respectfully traversed.

The claimed invention is directed to a camera for getting information about a three-dimensional shape that includes a projector and a monitor (or display part). The projector projects a light on the object that is used to get information about the three-dimensional shape of the object. The monitor displays an image of the object.

Conventional cameras of this type typically do not display the image of the object while the image is being captured. Conventional cameras typically display an image of the object only after the data gathered about the object has been processed. Alternatively, conventional cameras will display an image of the object that shows the projected light in the image while data about the object is gathered and processed. However, users become uncomfortable if no image is displayed while data is being gathered or if the image displayed includes the projected light, which is very disorienting. The claimed invention overcomes these problems, as well as other problems, by displaying an image of object that does not include the projected light while getting information about the three-dimensional shape of the object.

Applicant submits that Fujiwara does not disclose or suggest (1) a memory for storing an image of the object captured or taken when the projector does not project light on the object, (2) a monitor or display part displaying an image of the object without the projected light, or (3) a monitor or display part displaying an image of the object without the projected light while projecting the light on the object.

Claim 1, for example, recites “a memory for storing the image of the object that the image capturing device captures when the projector does not project the pattern light on the region...” The Examiner alleges that the claimed image is disclosed in Fujiwara as wire frame model MX in figure 3, which is stored in memory 30. Although memory 30 does store wire frame model MX, model MX is not an image of the object that the image capturing device captures when the projector does not project the pattern light on the region. The wire frame model MX shows patterns of the three-dimensional form to be processed and provides the mapping vertices for processing. See col. 3, lines 55-57 and col. 4, lines 30-41.

Claim 1, for example, also recites “when the projector projects light on the region; the monitor displays the image of the object stored in the memory instead of the image of the object the image capturing device captures with the projector projecting the pattern light on the region.”

The Examiner alleges that Fujiwara teaches these features as disclosed in col. 3, lines 1-11. This particular section of Fujiwara does not disclose a monitor, displaying images, or projecting a pattern light on a region; it merely describes the relationship between three-dimensional data and two-dimensional data. Furthermore, Fujiwara does not disclose displaying an image of the object where the image does not include the projected light. The display 20 of Fujiwara displays the wire frame model MX and color image data GX1 with the projected light as part of the display. Thus, Fujiwara only displays images with the projected light as part of the image. In addition, when Fujiwara is projecting light on the object, the images displayed are of the image currently being captured with the projected light as part of the images. Fujiwara does not display a stored image captured when the projector does not project light while projecting light on an

object currently being captured. In sum, Fujiwara only discloses processing data after capturing an image and does not disclose displaying an image of the object while taking the image.

For these reasons, as well as others, Fujiwara fails to teach or suggest each and every feature of claim 1. Claims 4 and 8 include features similar to claim 1. Thus, Fujiwara fails to teach or suggest each and every feature of claims 4 and 8. The remaining claims depend from claims 1, 4, or 8. Therefore, Fujiwara fails to teach or suggest each and every feature of the dependent claims for the reason given with respect to claim 1 as well as their additional features. Accordingly, applicant respectfully requests the withdrawal of the rejection of claims 1-13 under 35 USC 102(e) in view of Fujiwara.

Applicant submits that all pending claims are in condition for allowance, which action is requested.

Attached hereto is a marked-up version of the changes made to the claims by this amendment, captioned "**Version with markings to show changes made**".

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **325772016900**.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Amend claims 1-4 and 6-13 as follows:

1. A camera for getting information [upon] about a three-dimensional shape, comprising:
 - an image [taking] capturing device for [taking] capturing an image of an object within a region to be photographed;
 - a projector for projecting a pattern light on the region; and
 - a monitor for displaying the image of the object [which the image taking device takes, in which], the monitor [has] having a memory for storing the image of the object that the image [taking] capturing device [takes] captures when the projector does not project the pattern light on the region,
wherein the image [taking] capturing device [takes] captures a projection pattern [which is] formed on the object [within the region] by the pattern light [that the projector projects], and
wherein, when the projector projects the pattern light on the region, the monitor displays the image[,] of the object stored in the memory[, of the object,] instead of the image of the object the image [taking] capturing device [takes with] captures with the projector projecting the pattern light on the region.
2. The camera as claimed in claim 1, wherein the pattern light is [not a uniform] a non-uniform light and has a distribution of illuminance, and
[wherein] the projection pattern which is formed on the object within the region by the pattern light comprises at least one stripe.
3. The camera as claimed in claim 1, wherein the pattern light comprises a colored light, and

[wherein] the projection pattern [which] that is formed on the object within the region by the pattern light comprises a colored part.

4. A camera [which is able to get] capable of getting information [upon] about a three-dimensional shape of an object, comprising:

 a projector for projecting a light having a predetermined pattern on the object;
 a photographing part for photographing the object;
 a memory for storing an image of the object [which] that the photographing part photographs[,] in a state in which the projector does not project the light having the predetermined pattern on the object; and

 a display part for displaying the image[,] of the object stored in the memory[, of the object,] instead of the image of the object the photographing part photographs while the projector projects the light having the predetermined pattern on the object.

6. The camera as claimed in claim 4, wherein the light having the predetermined pattern is [not a uniform] a non-uniform light and has a distribution of illuminance, and

 [wherein] a projection pattern [which] that is formed on the object by the light having the predetermined pattern comprises at least one stripe.

7. The camera as claimed in claim 4, wherein the light having the predetermined pattern comprises a colored light, and

 [wherein] a projection pattern [which] that is formed on the object by the light having the predetermined pattern comprises a colored part.

8. A camera [which is able to get] capable of getting information [upon] about a three-dimensional shape of an object, comprising:

 an image taking part for successively taking [an image] images of the object;
 a first memory for successively and temporarily storing the [image] images of the object the image taking part takes;

a display part for renewing and displaying the [image] images of the object successively; and

a projector for projecting a light with a predetermined pattern on the object, wherein the display part displays the image of the object stored in the first memory prior to a projection of the light with the predetermined pattern by the projector[,] instead of the image of the object the image taking part takes[,] when the image taking part takes the image of the object in a state in which the projector projects the light with the predetermined pattern.

9. The camera as claimed in claim 8, [which further comprises] further comprising a second memory for storing the [image] images of the object the image taking part takes, [wherein] the second memory [outputs] outputting the stored [image] images of the object[, thus stored,] to the first memory successively.

10. The camera as claimed in claim 9, wherein the second memory stores the image of the object the image taking part takes, and the image of the object stored in the second memory is prohibited from being outputted to the first memory[,] when the image taking part takes the image of the object in the state in which the projector projects the light with the predetermined pattern.

11. The camera as claimed in claim 8, wherein the display part is prohibited from renewing the image of the object when the image taking part takes the image of the object in [a] the state in which the projector projects the light with the predetermined pattern.

12. The camera as claimed in claim 8, wherein the light with the predetermined pattern is [not a uniform] a non-uniform light and has a distribution of illuminance, and [wherein] a projection pattern [which] that is formed on the object by the light with the predetermined pattern comprises at least one stripe.

13. The camera as claimed in claim 8, wherein the light with the predetermined pattern comprises a colored light, and

[wherein] a projection pattern [which] that is formed on the object by the light with the predetermined pattern comprises a colored part.